



The National Grid Company plc

**Use of System Charging Methodology
Modification Proposal**

UoSCM-M-03

**Calculation of TNUoS Demand Charges and
Allocation Of Triad Benefits for Trading Units
Which Contain More Than One Supplier BM Unit**

21 September 2001

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Executive Summary

This paper sets out for consultation National Grid's proposal to modify the rules for calculating the TNUoS demand charges and allocating the Triad Benefit within a Trading Unit to cater for the case of there being more than one Supplier BM Unit in a Trading Unit.

Outline of Proposed Modification

Description of proposed modification to the Use of System Charging Methodology

To add new rules for calculating the TNUoS demand charges and allocating the Triad Benefit within a Trading Unit to cater for the case of there being more than one Supplier BM Unit in the Trading Unit:

- The Lead Parties of all the Supplier BM Units are individually responsible for their TNUoS demand charges associated with their own Supplier BM Units. In addition they get a proportional share of the total demand charges associated with all the Exempt Export BM Units in the same Trading Unit.
- The Triad Benefit is assigned to the Supplier BM Units. The individual maximum useable Triad Benefit for each Supplier BM Unit remains at its demand charge liability. The Triad Benefit arising from SVA registered Licence Exemptable Generators (LEGs) will be first credited to the Supplier BM Units they belong before any surplus is distributed amongst the other Supplier BM Units up to their individual demand charge liability. The default allocation method will be in proportion to the demand charge liabilities of all the Supplier BM Units within the Trading Unit. However, Users will be able to notify their own allocation arrangements, by 30 September (or a later date specified by National Grid) of the Financial Year.

Explanation of the issue

The current rules for calculating the TNUoS charges for Supplier demand and allocating the Triad Benefit in a Trading Unit only cater for the case of there being no more than one Supplier BM Unit in the Trading Unit. If the BSC Modification P7 is approved by the Authority, a Trading Unit can contain any number of Supplier BM Units situated in the same GSP group. New charging rules are therefore required.

Justification for proposed modification

To better facilitate competition in generation and supply.

Suggested alternatives

See Section 3 for details of the alternatives identified.

Implementation date

To be determined (intended for 1 November 2001).

Proposed changes to the Statement of the Use of System Charging Methodology

To be finalised once the methodology is agreed. Some suggested text for relevant parts of the Statement based on the proposed methodology is outlined below.

Page 20, Paragraph 4.1

“The Lead Parties of the Supplier BM Units belonging to the same Trading Unit are liable for demand charges for the Trading Unit. For the purposes of this document we have defined the above parties as Suppliers. **Appendix TN-5: Classification of parties for charging purposes and what Transmission Network Use of System charges they will be liable for** provides an illustration, for information purposes, of how a party is classified and for what charges they will be liable.”

Page 20, Paragraph 4.2

“Suppliers pay final demand charges as follows:

- Each Supplier’s final charges for half-hourly metered demand will be based on the average of the actual demand of its Supplier BM Unit supplied during the Triad plus a share of the aggregate metered import by the Exempt Export BM Units belonging to the same Trading Unit.
- Each Supplier’s final charges for non-half-hourly metered demand will be based on the actual energy consumption of its Supplier BM Unit over the period 16:00hrs to 19:00hrs inclusive (i.e. settlement periods 33 to 38 inclusive) over the Financial Year.

The detailed rules for allocating the demand charges in a Trading Unit with multiple Supplier BM Units are included in the section titled “Triad Trading as a Trading Unit”, Paragraph 5.25.”

Page 26, Paragraph 5.25

Replace the whole paragraph with the following:

“Triad Benefit resulting from the export at Triad of a Supplier BM Unit or an Exempt Export BM Unit can be traded to other Supplier BM Units with whom it jointly forms a Trading Unit. The allocation of the Triad Benefit will follow the following steps.

- i) The initial demand charge liability associated with each Supplier BM Unit is calculated first. This is the sum of the following two elements:
 - half-hourly metered demand charges, which is the average import of its Supplier BM Unit at Triad times the £/kW demand tariff; and
 - non-half-hourly metered demand charges, which is the actual energy consumption of its Supplier BM Unit over the period 16:00hrs to 19:00hrs inclusive over the Financial Year times the £/kWh energy consumption tariff.
- ii) For a Supplier BM Unit whose total initial demand charge liability is negative due to the Triad Benefit from its SVA registered Licence Exempt Generators exceeding its demand charge liability, the final demand charge liability for

<p>the Supplier will be zero, and the surplus Triad Benefit is noted as the <u>initial Triad Benefit</u> produced by this Supplier BM Unit.</p> <p>iii) The <u>additional demand charge liability</u> associated with all Exempt Export BM Unit importing at Triad is calculated as the total average import during the Triad times the £/kW demand tariff. This is then shared by all Supplier BM Units in proportion to their <u>initial demand charge liabilities</u>.</p> <p>iv) The <u>initial Triad Benefit</u> of any Exempt Export BM Unit exporting at Triad is individually calculated. This is its average export over Triad times the £/kW demand tariff of the relevant Demand zone.</p> <p>v) The notified allocation will be carried out. The <u>initial Triad Benefits</u> produced by any BM Unit in the Trading Unit will be assigned to the Supplier BM Units according to arrangements notified to NGC by 30 September (or a later date specified by National Grid) in the Financial Year in question. If the total resulting Triad Benefit assigned to a Supplier BM Unit exceeds its <u>initial demand charge liability</u> as modified in iii) above, then the surplus Triad Benefit will be disregarded. This step results in the <u>remaining demand charge liabilities</u> of the Supplier BM Units.</p> <p>vi) Any surplus Triad Benefits not covered by any notified allocation agreements are then added up as the <u>remaining Triad Benefit</u> and compared to the total <u>remaining demand charge liabilities</u> of all the Suppliers in the Trading Unit. If the <u>remaining Triad Benefit</u> exceeds the total <u>remaining demand charge liabilities</u> then the final demand charge liabilities for all Suppliers will be set to zero and the overall surplus Triad Benefit will be disregarded. Otherwise the <u>remaining Triad Benefit</u> is shared out amongst all the Suppliers in proportion to their <u>remaining demand charge liabilities</u>."</p>
<p>Proposed changes to the Statement of Use of System Charges</p> <p>None.</p>
<p>Impacts on existing Use of System charges</p> <p>None.</p>
<p>Impacts on other Industry Documents</p> <p>None.</p>

1. Introduction

National Grid is obliged under the Transmission Licence:

- (i) to make revisions to the Charging Statements in order that the information set out in these statements shall continue to be accurate in all material respects;
- (ii) to keep the Use of System Charging Methodology at all time under review;
- (iii) to make such modifications of the Use of System Charging Methodology as may be requisite for the purpose of better achieving the relevant objectives, which are:
 - a. to facilitates effective competition in the generation and supply of electricity and (so far as is consistent therewith) facilitates competition in the sale, distribution and purchase of electricity;
 - b. to result in charges which reflect, as far as reasonably practicable, the costs incurred by National Grid in its Transmission Business; and
 - c. to take account of the developments in National Grid's Transmission Business.

Before making a modification to the Use of System Charging Methodology, National Grid is also required by the Transmission Licence to consult the CUSC Users on the proposed modification and allow them a period of not less than 28 days within which to make written representations.

The purpose of this document is to set out for consultation National Grid's proposal to modify the rules for calculating the TNUoS demand charges and allocating the Triad Benefit within a Trading Unit to cater for the case of there being more than one Supplier BM Unit.

2. Background to the Issues

Current TNUoS Charge Rules

The current rules for calculating the TNUoS charges for Supplier demand and allocating Triad Benefit in a Trading Unit are based on the assumption that a Trading Unit liable for Supplier demand charges can only contain one Supplier BM Unit and one or more Exempt Export BM Units. This is shown in Figure 1 below.

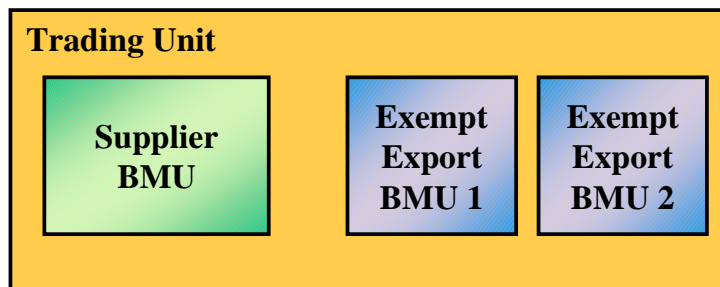
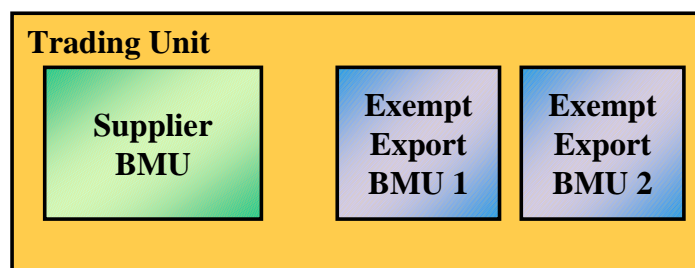


Figure 1 Trading Unit with Supplier BM Unit before BSC Mod P7

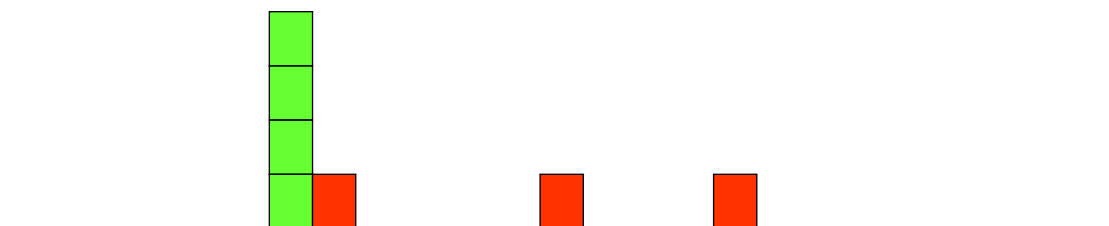
According to the current charging rules, the Lead Party of the only Supplier BM Unit in a Trading Unit will be:

- responsible for the total demand charge liability for the whole Trading Unit; and
- assigned all the Triad Benefits within the Trading Unit, either from Exempt Export BM Units or from Licence Exemptable Generators (LEGs) registered within the Supplier BM Unit itself. If the total Triad Benefit exceeds the demand charge liabilities, then the surplus Triad Benefit will be disregarded, i.e. the final demand charge will not be negative.

The allocation of Triad Benefits within a Trading Unit is shown in an example in Figure 2 below.



Initial Demand charge liability and Triad Benefit



Final Demand charge liability after Triad Trading

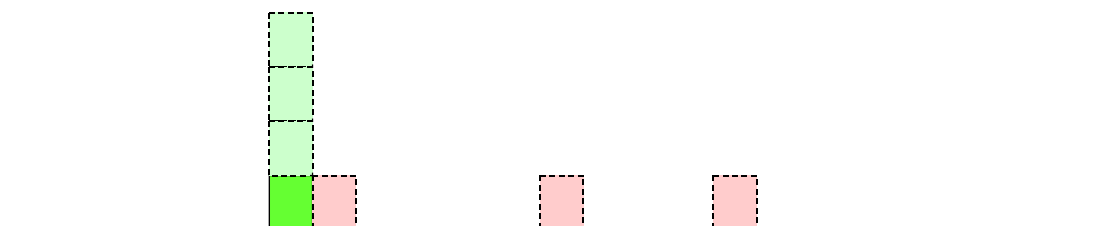


Figure 2 Current Rules of Allocating Triad Benefit in a Trading Unit

The green boxes indicate the demand charge liabilities and the red boxes indicate the Triad Benefits generated by LEGs, including those generated by the Supplier BM Unit due to export from its SVA registered LEGs and by the Exempt Export BM Units due to export from the CVA registered LEGs. The effect of the allowed netting-off between the Triad Benefit and the demand charge liabilities is shown by converting the previously solid boxes into paler ones in dashed lines. In the above example, the initial demand charge liability of 4 units becomes 1 unit after netting off the 1 unit

Triad Benefit from its own SVA registered LEGs and 1 unit each from the two Exempt Export BM Units in the same Trading Unit.

Impact of BSC Modification P7

The BSC Panel decided at its meeting on 20 September 2001 to recommend Modification P7 for approval by the Authority. This modification will allow a Trading Unit to contain one or more Supplier BM Units, all situated in the same GSP group, as illustrated in Figure 3 below.

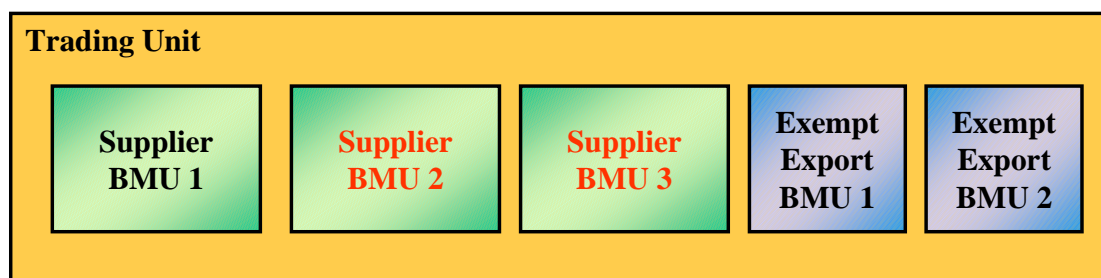


Figure 3 Trading Unit with Supplier BM Units after BSC Mod P7

The current rules do not specify the explicit liabilities for TNUoS demand charges for multiple Supplier BM Units in the same Trading Unit, nor do they cater for the allocation of Triad Benefits to these Supplier BM Units. In order to levy Supplier demand charges and administer the allocation of Triad Benefit in a transparent manner, new rules need to be devised.

3. Explanation of the Issues

This modification to the Use of System Charging Methodology is focused on accommodating the new Trading Unit configuration allowed by the BSC Modification P7. It seeks to maintain the current principles of TNUoS demand charging and Triad Trading as a Trading Unit. Therefore the proposed new rules will, as far as possible, replicate the current rules relevant in these two areas. In particular, the demand charges and assigned Triad Benefit for a Trading Unit with a single Supplier BM Unit should remain the same before and after the modification proposed here.

TNUoS Charges for Supplier Demand in a Trading Unit

The following alternative options are considered for charging out the total demand charge liability for the whole Trading Unit.

- a) The Lead Parties of all the Supplier BM Units are individually responsible for their TNUoS demand charges associated with their own Supplier BM Units. In addition they get a proportional share of the total demand charges associated with all the Exempt Export BM Units in the same Trading Unit.
- b) The Lead Party of one Supplier BM Unit is nominated to be responsible for all the TNUoS demand charges in the whole Trading Unit.

Given that BSC Modification P7 will allow **any** Supplier BM Units (i.e. from different companies) in the same GSP group in one Trading Unit, it would be more appropriate that the demand charges for the Supplier BM Units are calculated and

levied separately. National Grid therefore proposes to adopt option a) for modifying the rules for TNUoS charges for Supplier Demand.

Triad Trading as a Trading Unit

To be consistent with the current Triad Trading rules, the Triad Benefit within a Trading Unit will only be assigned to Suppliers. This benefit may arise from either SVA LEGs within the Supplier BM Units or from CVA registered Exempt Export BM Units within the Trading Unit. Furthermore, the maximum useable Triad Benefit allowed for each Supplier BM Unit will be up to its demand charge liability, i.e. the demand charges will not be negative.

It also seems sensible that the Triad Benefits arising from the SVA registered LEGs are first allocated to the Supplier BM Units they belong before any surplus is distributed to the other Supplier BM Units in the same Trading Unit.

Figure 4 below shows an example of the initial demand charge liabilities for each Supplier BM Unit and the initial Triad Benefit generated by each BM Unit in a Trading Unit, after assigning to the Supplier BM Unit it belongs to the Triad Benefit generated by its own SVA registered LEGs.

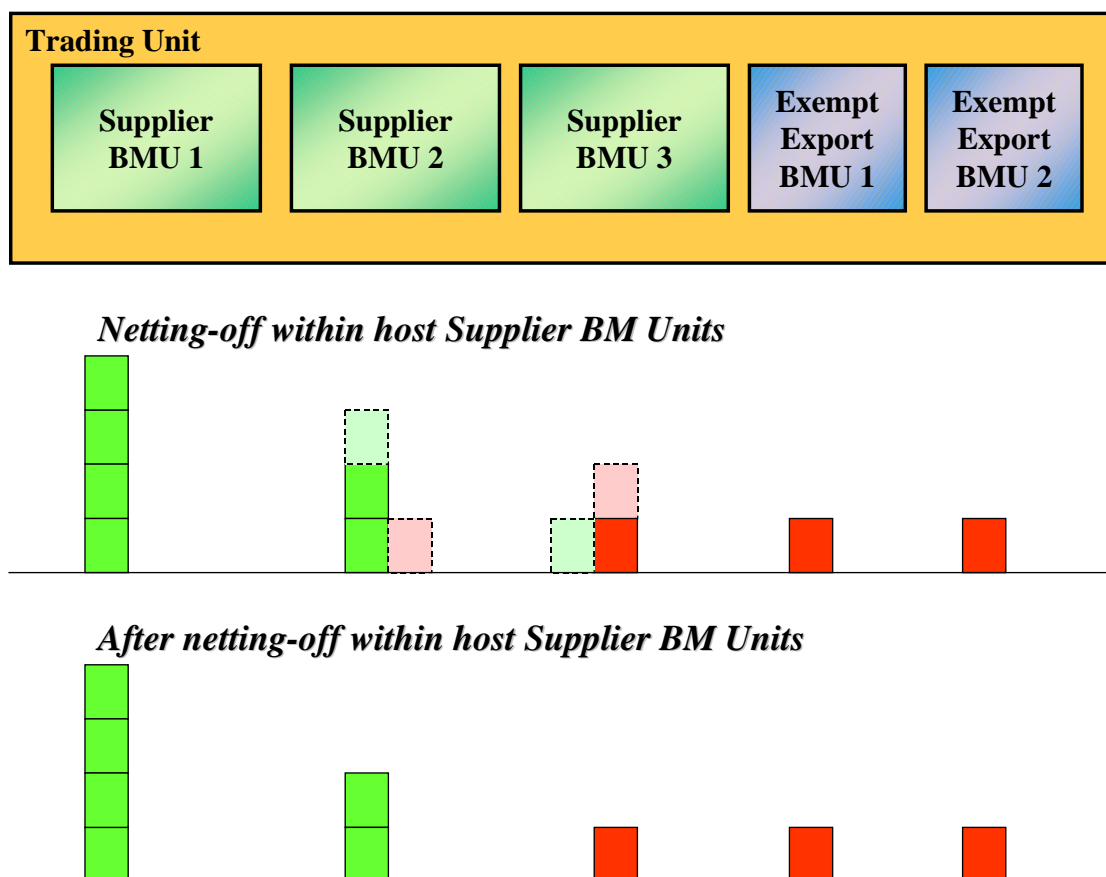


Figure 4 Allocating Triad Benefit within the Host Supplier BM Units

In the above example, the initial demand charge liabilities and Triad Benefits for each BM Unit in the Trading Unit are:

BM Unit	Demand Charge Liability	Triad Benefit
Supplier BMU 1	4	0
Supplier BMU 2	3	1
Supplier BMU 3	1	2
EE BMU 1	0	1
EE BMU 2	0	1

After allowing the Triad Benefit to net off any demand charge liability in the host Supplier BM Unit, the resulting demand charge liability and Triad Benefit in each BM Unit are:

BM Unit	Demand Charge Liability	Triad Benefit
Supplier BMU 1	4	0
Supplier BMU 2	2	0
Supplier BMU 3	0	1
EE BMU 1	0	1
EE BMU 2	0	1

For allocating the remaining Triad Benefits (such as remaining net export from Supplier BM Units and/or Exempt Export BM Units outputs) amongst the Supplier BM Units in the Trading Unit, the following alternative options have been considered:

Methods requiring no notifications from Users

- a) in proportion to the total remaining demand charges each Supplier BM Unit would be liable for;
- b) in equal proportion to each Supplier BM Unit;

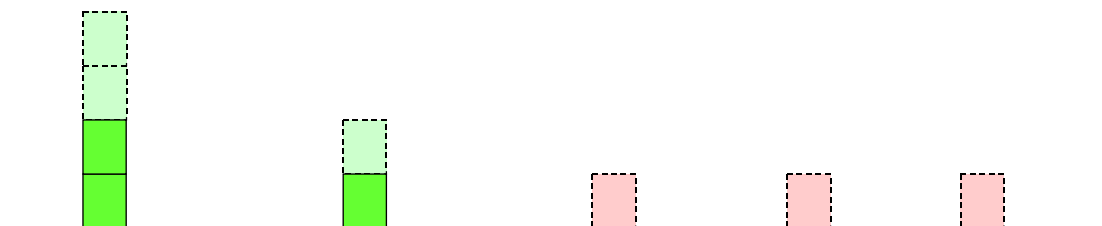
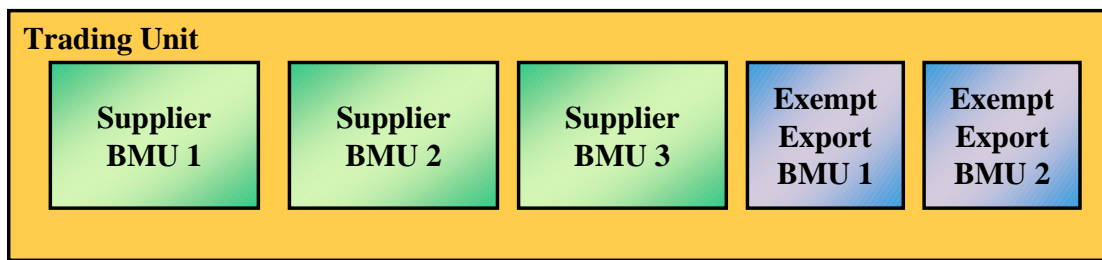
Methods requiring notifications from Users

- c) In an order informed by the Trading Unit members, each time netting off up to 100% of the remaining demand charge of a Supplier BM Unit, until the Triad Benefit is exhausted;
- d) With certain amount (in MW or in £) or percentage to certain Supplier BM Units as specified by the Trading Unit members, and the residual to be distributed amongst all the Supplier BM Units in the same Trading Unit.

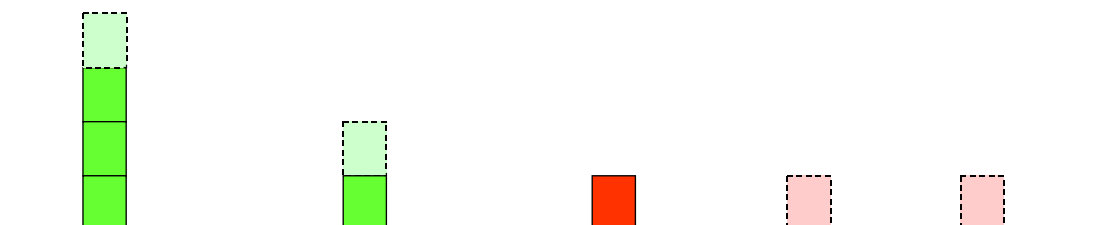
The final demand charge liabilities resulting from each of the above options for each BM Unit in the Trading Unit example shown previously are illustrated in Figure 5 below.

For Option c), the example assumes that the order of allocation is Supplier BMU 3, 2, and 1. For Option d), it is assumed that the specified proportion is 50:50:0 amongst Supplier BMU 1, 2, and 3. The final demand charge liability (DC) and unused Triad Benefit (TB) for each BM Unit shown in Figure 5 are:

BM Unit	Option a)		Option b)		Option c)		Option d)	
	DC	TB	DC	TB	DC	TB	DC	TB
Supplier BMU 1	2	0	3	0	3	0	2.5	0
Supplier BMU 2	1	0	1	0	0	0	1.5	0
Supplier BMU 3	0	0	0	1	0	0	0	0
EE BMU 1	0	0	0	0	0	0	0	0
EE BMU 2	0	0	0	0	0	0	0	0



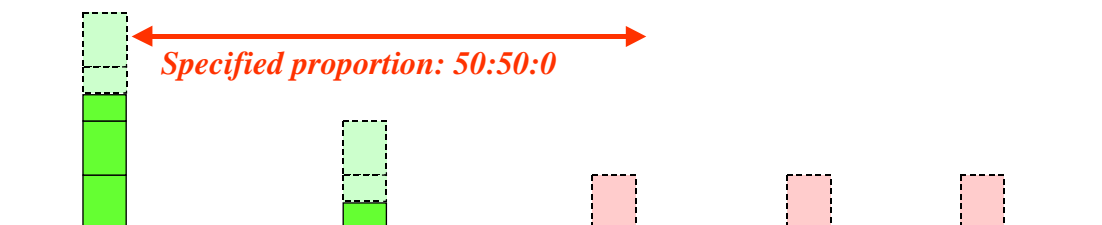
a) Proportional allocation



b) In equal proportion to all Supplier BM Units



c) User specified order of allocation



d) User specified proportion/amount

Figure 5 Options of Allocating Triad Benefit within a Trading Unit

Both Options a) and b) require no specific notification from the Users. Under the individual limit of useable Triad Benefit to each Supplier BM Unit, Option a) ensures that all Supplier BM Units reach their maximum useable Triad Benefit together. Option b), however, does not guarantee maximum utilisation of the Triad Benefit, as

some Supplier BM Units may have their excess Triad Benefit disregarded whilst other Supplier BM Units have not yet reached their maximum useable limits. This is shown in the example in Figure 5 above where each Supplier BM Unit is allocated 1 unit of Triad Benefit. Since Supplier BM Unit 3 already has zero demand charge liability, the 1 unit of Triad Benefit it is allocated to it is disregarded (shown still in solid red), although both Supplier BM Units 1 and 2 still have more than 1 unit of demand charge liability in total.

Options c) and d) would give the participants more flexible choices as to how much Triad Benefit is assigned to which Supplier BM Unit. These would require them to notify National Grid of the exact nature of their preferred allocation arrangements. For Option d), a restriction on the notifications not being “circular” (e.g. a notified allocation from A to B existing in parallel with other notified allocations from B, directly or indirectly, to A) would probably be necessary to ensure a deterministic and practical allocation. Furthermore, Option d) has the same shortcoming as Option b) in that it would not guarantee maximum utilisation of the Triad Benefit.

Balancing the considerations above, National Grid proposes to adopt Option a) as the default non-notification allocation method while maintaining the notification choice Option c) for Users. The preferred order of allocation would need to be agreed by all Suppliers in the Trading Unit and need to be notified in the same timeframe required for the “NGC facilitated Triad Trading”, i.e. by 30 September of the Financial Year. Such notified allocation option would then be accommodated before the default allocation method is applied to any remaining Triad Benefits.

4. Proposed Modifications

Proposed Changes to the Use of System Charging Methodology

The proposal can be summarised as follows.

The Lead Parties of all the Supplier BM Units would be individually responsible for the TNUoS demand charges associated with their own Supplier BM Units. In addition, they would get a proportional share of the total demand charges associated with all the Exempt Export BM Units in the same Trading Unit.

The Triad Benefit would be assigned to the Supplier BM Units. The individual maximum useable Triad Benefit for each Supplier BM Unit would remain at their demand charge liabilities. The Triad Benefit arising from SVA registered LEGs would be first credited to the Supplier BM Units they belong before any surplus is distributed amongst the other Supplier BM Units up to their individual demand charge liability. The default allocation method would be in proportion to the demand charge liabilities of all the Supplier BM Units. However, Users would be able to notify their own allocation arrangements, by 30 September of the Financial Year. For this year, the notification date would be expected to be delayed until the end of October.

This modification should ideally be implemented in time for the 2001/02 Triad Season (by 1 November 2001), to allow time for participants to take necessary action according to an accurate expectation of their liability for transmission charges and useable Triad Benefit. However, this will be dependent on the process and outcome of the Authority's decision on the BSC Modification P7.

Proposed Changes to the Statement of the Use of System Charging Methodology

It is proposed that The Statement of the Use of System Charging Methodology be modified in line with the agreed methodology. Some suggested text in line with the initial proposal is shown in the Executive Summary.

Proposed Changes to the Statement of Use of System Charges

None.

Indicative Impact on the Use of System Charges

None.

Impacts on Other Industry Documents

None.

5. Responses to this Consultation

Comments and views are invited on all the issues raised in this consultation document. In order that your comments and views are included in National Grid's report to the Authority, responses must be received by **19 October 2001**. If you wish to provide comments on this review, then responses are welcome via e-mail to:

min.zhu@uk.ngrid.com

Or alternatively, written comments may be addressed to:

Min Zhu
Senior Charging Analyst
Commercial and System Strategy
The National Grid Company plc
Kirby Corner Road
Coventry
CV4 8JY

If you have further queries, please do not hesitate to contact Min Zhu on: **02476 423076**.